

WHAT IS CLAIMED IS:

1. A Tri-color ZnSe white light emitting diode, comprising :
 - 5 at least a ZnSe LED chip ;
 - a blue emission layer formed on the ZnSe LED chip to emit blue wavelength light, which shines the ZnSe LED chip to produce yellow light.
 - a green fluorescent powder being covered onto ZnSe LED chip capable of absorbing blue light emitted from the blue emission layer and emitting green
 - 10 wavelength light, so that mixing the blue light, yellow light, and green light to produce the white light emitting diode.
2. A Tri-color ZnSe white light emitting diode according to claim 1, wherein green fluorescent powder includes at least a component of $Y_3 (Ga_x Al_{1-x})_5 O_{12} : Ce$ ($0 < x < 1$) ; $Ca_8 Mg (SiO_4)_4 Cl_2 : Eu, Mn$; $Ca_2 Mg Si_2 O_7 : Cl, Eu$;
- 15 $Ba_2 (Mg_x Zn_{1-x}) Si_2 O_7 : Eu$.
3. A Tri-color ZnSe white light emitting diode according to claim 1, wherein the blue emission light has a wavelength in a region of 420nm- 480nm.
4. A Tri-color ZnSe white light emitting diode according to claim 1, wherein the green wavelength light has a wavelength in a region of 500nm-550nm.

5. A Tri-color ZnSe white light emitting diode package, comprising :

a substrate ;

at least a ZnSe LED chip being mounted on the substrate and electrically connected to the substrate ;

5 a blue emission layer formed on the ZnSe LED chip to emit blue wavelength light, which shines the ZnSe LED chip to produce yellow light ;

a green fluorescent powder being covered onto ZnSe LED chip capable of absorbing blue light emitted from the blue emission layer and emitting green wavelength light, so that mixing the blue light, yellow light, and green light to
10 produce the white light emitting diode ; and

a component resin being packaged on the ZnSe LED chip.

6. A Tri-color ZnSe white light emitting diode package according to claim 5, wherein green fluorescent powder includes at least a component of $Y_3(Ga_x Al_{1-x})_5O_{12} : Ce$ ($0 < x < 1$) ; $Ca_8Mg(SiO_4)_4Cl_2 : Eu, Mn$; $Ca_2MgSi_2O_7 : Cl, Eu$; $Ba_2(Mg_xZn_{1-x})Si_2O_7 : Eu$.
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7. A Tri-color ZnSe white light emitting diode package according to claim 5, wherein the blue emission light has a wavelength in a region of 420nm-480nm.

8. A Tri-color ZnSe white light emitting diode package according to claim 5, wherein the green wavelength light has a wavelength in a region of
20 500nm-550nm.

9. A Tri-color ZnSe white light emitting diode package according to claim 5, wherein the substrate may be a lead frame, a printed circuit board, a plastic material, or ceramic.

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